
CHICAGO TIMES

THE NEWSLETTER OF THE CHICAGO AREA TI-99/4(A)USER'S GROUP, VOLUME 4 #7

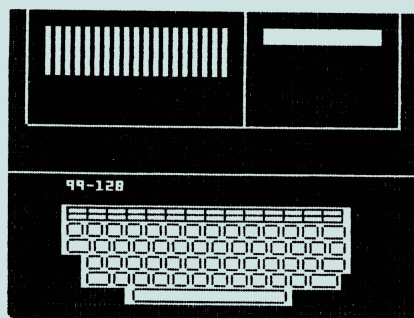
STILL RELIABLE AND STILL MONTHLY!

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THE FUTURE 99/128 COMPUTER?



THE MARCH MEETING

will be held on Saturday, Mar. 9, 1984, from 1:00 to 3:00 PM in the Fireside Lounge at Triton College. At this meeting we will have a demonstration of three different modems and of the various TI Bulletin Boards in the Chicago Area, including the Users Group BBS, TI-West and TI-South which has just gone to 1200 baud.

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BULLETINS:

The Business S.I.G will meet after the regular meeting this month.

The User's Group Program Library is now on line on the group bulletin board

The basic class held by Sam Pincus will continue after the meeting. Please bring your consoles and monitors. Class is still open to all members at no charge.

Don't forget to bring your entries for the programming contest starting at the March meeting.

CORRECTIONS FROM LAST ISSUE: In PRACTICAL PROGRAMMING PRACTICES there was an error caused by the formatting of this newsletter in the ROMAN NUMERAL program. Lines 160, 200, 230, 260, 290, 330, 360, 390, 420, 460, 490, 520 and 550 should all have a less than sign after the X and before the number. Sorry for this deletion.

THE DISASSEMBLY: Dave Wakely

"The groundhog sees his shadow, and we have six more weeks of computing." Or at least it seems that way, since it has been estimated that home computer users spend significantly more time in front of the screen during the winter. This is also the time to catch up on all those magazines piling up on the floor around the computer table, and when you do you will find quite an assortment of reading material for the 99/4A.

In the beginning was 99er Magazine. I still have somewhere a copy of a letter I received in February of 1981 stating, "At last! A magazine for your TI-99/4!" and inviting me to subscribe immediately to ensure that I receive the big premier issue in April. I can sum up the rest of the history of 99er by informing you that that issue arrived in mid-June, confirming my belief that some people are consistently inconsistent.

The content of the old 99er was another matter, however, as it was for a time about the only printed source of information on the 99/4 and /4A, and did quite a good job in both "hyping" the TI computer, and educating the TI user. There was even a "Chicago connection" at the magazine, as our own Sam Pincus quickly became a contributing editor and had several tutorial articles published. He was eventually joined by other group members who contributed game reviews or programs of their own.

So what went wrong with 99er? From the beginning the irregular publication schedule frustrated readers, and yet this issue was literally ignored on the pages of the magazine. I have never believed that the content of the "Letters to the Editor" column reflected the content of the mail they actually received. Also, some bizarre editorial policies have been pursued. For example, 99er seems to have a fetish for "the magazine within a magazine" concept. At various times there has been "On loCAItion" (the international journal of computer assisted instruction); "LOGO Times" (the magazine of the LOGO language); "Computer Gaming"; "Portable Computing"; etc. Former writer and group member Steve Schwartz once half-jokingly confided that he expected 99er to be nothing more than a collection of magazine covers in a few years.

Since the TI pullout, 99er has metamorphized (or degenerated, depending on your point of view) into four magazines in one, first putting all the advertising into one place, then taking it out altogether. As the user base of TI owners matured and added peripherals, the "new" HCM (which some maintain stands for "HoCuM") actually became "simpler". The assembly language articles and advanced tutorials on TI-Writer and Multiplan have disappeared, replaced by programs watered down so they can be ported to as many machines as possible. While the active user base of the TI has shifted to the sophisticated user, HCM writes on the level of the TI beginner, as if they are unaware that the machine is no longer being sold and that the supply of TI beginners is limited. The bottom line seems to be that they panicked when TI pulled out; are trying to be all things to all computers; and may well end up getting the attention of no one. Rock bottom may have come recently when they reportedly sent letters to several user groups (we didn't get one, yet) asking them to cease criticizing the magazine. Perhaps they can now place on the cover the inferentially significant logo "Please don't

squeeze the HCM!" Ten issues (maybe) for \$25.

Another apparent victim of the TI pullout of '83 is the International TI User Group in Bethany, Oklahoma. Started soon after the introduction of the 99/4 by Charlie LaFara, who worked in the meat packing business, the IUG probably reached its peak during the publication run of "Enthusiast '99", a slick and well-written magazine that delivered what it promised, without trying to do too much. Between May of 1983 and July of 1984 just 7 issues were produced, although the IUG had published a quite readable newsletter for several years. Currently, the IUG appears to be attempting to rally its members around the TI Professional with a discount offer, but with prices starting at over \$1600, it remains to be seen how much longer this organization can last. Unfortunately, the IUG got into a disagreement with the Atlanta User Group over the copyright of some programs in its program exchange, and at last report was suing some of the group officers. This has not exactly endeared the IUG to other user groups, and Enthusiast '99 is now a collector's item.

In July of 1982 the astute editor of the Chicago Times reported a rumor that Compute! magazine was about to start coverage of the TI-99/4A. Steve Davis (of later TI book fame) published a game in TI BASIC in September of that year, and Regena, formerly of 99er, began a regular tutorial column in January, 1983, which has run ever since. Since the pullout, however, many feel that Compute!'s commitment to the /4A has waned, and at times the number of pages devoted to TI has consisted of literally nothing but Regena's column. Early in '83, however, there appeared a number of game and utility programs whose quality rivaled those of 99'er. So what happened to Compute!? The home computer collapse of late '83 and '84 meant many less newsstand sales of the magazine (much more profitable than subscription), and advertising pages dropped to about one quarter of what they had been. The remaining coverage of the TI tends to be geared toward the beginner, with games that are translated for several different machines. Sound familiar? At least this magazine did it first, and it always shows up, once a month, on time. Really. \$24 per year.

Around the time of the TI pullout, Computer Shopper, a monthly "magazine" about the size and shape of the Chicago Sun Times, began a series of tutorials on the TI-99/4A. The author was Randy Holcomb, a programmer/analyst for a bank in Michigan and the TI Sysop on Compuserve. The tutorial series has since been turned into a book (actually a 28-page booklet) with a great deal of technical information crammed into it. For example, most of the second half of this booklet is a disassembly listing of the RS232 DSR ROM, in other words, no stuff for beginners. Randy's columns in Computer Shopper are usually informative and well-written, combining reviews, tutorials, news, and rumors (hey, that combination sounds familiar). Occasionally others will contribute something, but most of the TI writing is done by Mr. Holcomb, usually totaling a few pages per issue. Most of Computer Shopper contains what you might expect from the title - ads. Some very good prices can be found on a wide range of computer equipment, accessories, and software. \$15/year.

After a few small issues sent to its customers, The Smart Programmer, a newsletter from Miller's Graphics in California went monthly (at \$12.50/year) in February, 1984. This was a highly technical newsletter- no pictures, no ads, just 16+ pages of text, short

listings, and memory maps. The TI junkie could overdose on everything he/she could possibly want to know about Utility Vector tables, or a bit by bit examination of the eight VDP write-only registers. Keep in mind that some people find this kind of thing fascinating. The problem is that The Smart Programmer has beaten HCM's old interval-between-issues record. I believe it was in December that I received the July issue. I assume I have six more issues coming.

Around the same time that The Smart Programmer induced me to send them a check, we received the first complimentary copy of Home Computer Compendium, a 24-page monthly TI magazine dedicated chiefly to reviews of products for the 99/4A, but also to late-breaking news in the TI world. This proved to fill a need in the TI community since TI had departed only a few months earlier, and rumors were everywhere. As could be predicted, someone (guess who) objected to the magazine name, and it was subsequently changed to MICROpendium. Recently they expanded to 40 pages per issue, and in their short history probably have reviewed more hardware and software products than any other TI publication. It should be recalled that MICROpendium also gave our TI-Faire extensive coverage both before and after the show. \$15 for 12 issues.

Just a few weeks ago I spotted an ad on The Source for a new TI magazine, and was invited to send in my name and address for a free copy. I now have my Mini-Mag 99, the latest to carry 99/4A information, and will reserve judgement until I see what it becomes. At present, this Chicago Times probably has more information than was in the first Mini-Mag 99, but look at the paragraphs above and decide which of the mags you either read or would be interested in subscribing to. If we don't support the entrepreneurs in what is left of the TI market, there may well be no more market. I was willing to give them the chance, and sent in my subscription to M-M 99, which is looking for articles and programs, incidentally. \$20/year.

I am sure I have left some publication or other out, and that my views differ from some of my readers, and I neglected to even mention such late publications as the departed "Unofficial", an abomination of misspelling and misinformation, and the brief life of a TI newsletter put out by the Microcomputer Corporation of New York, which was mostly one long ad disguised as a newsletter. Still, we aren't doing badly for a "dead" computer. How many new magazines have you seen for the Radio Shack Model I, for example?

The bad news last month was the ad in Chicago newspapers announcing that Elek-Tek, the Chicago-based TI mail-order firm, would no longer sell TI products after Feb. 2. I spoke with Mr. Mort Goldman, one of the owners of Elek-Tek, last week, and here is the story (responses edited for length).

DW: Mr. Goldman, why did Elek-Tek decide to drop TI-99/4A products?

MG: Software for the TI is just no longer available, and we have seen interest in the TI waning recently.

DW: Does this cover only TI produced software, as your ad indicates, or 3rd party software as well?

MG: All of it. We had an enormous inventory of software for the TI, mostly education and game software...

DW: Yes, we saw your ads on TV, too.

MG: The problem was the price on this stuff came down so much it wasn't worth it to us. We had people coming in making \$10 decisions, and they didn't want to pay any more than that. I have 40 parking spaces, and we had people in here spending 2 hours to make \$10 decisions.

DW: How about peripherals, printers, cables, and so on?

MG: We still have the Myarc RS232, the stand alone RS232, Tandon and Shugart disk drives, and RF modulators...

DW: No more consoles, though?

MG: No, no consoles. You know, one of the problems was TI's policy on some of the software they had left. The TI-Writer and Multiplan, they wouldn't let us reduce the price on those...

DW: You mean TI kept the price high on the productivity packages?

MG: That's right, I told them, we have 3,000 pieces, why not knock off \$20 on the price and we can move them all, but they wouldn't do it.

DW: Why not?

MG: That's what I told them. They had written off everything, anything they got back from these packages was profit, so why not drop the price on the TI-Writer by \$20 and we could have sold them all...

DW: So what happens to what you have left?

MG: It all goes back. We had it on consignment from TI, but they sent most of what they had to that outfit in California...

DW: Triton?

MG: Yeah, that was a sweetheart deal.

DW: I believe it. As a Myarc distributor do you know anything about the rumors that Myarc is coming out with a TI compatible computer, and would Elek-Tek carry it if they did?

MG: Yeah, we hear that, but who's Myarc?, I mean how is it going to be marketed...we would have to take a look at it before we carry it, but we won't rule it out...

All in all, too bad. I first visited Elek-Tek at their original location on Devon near Central back in 1981, and always found their prices quite competitive and salespeople more knowledgeable about the 99/4A than the high school kids at the K-Mart computer section. Many of our members first heard about the group through our flyers distributed by Elek-Tek, and in turn we have sent them a lot of business over the past 4 years.

Other stuff: Don't forget the programming contest currently under way.

You have until the April meeting to make your submissions to the group library. There are prizes of \$40 for first place, \$25 for second place, and 5 library programs for third place in the categories of TI BASIC, Extended BASIC, Assembler, FORTH, and Multiplan templates. Label your cassette or disk clearly, make liberal use of instructions, and turn your entries in to one of the librarians. All entrants will receive two programs back for every one you submit. You may enter as many times as you wish, and may volunteer to be one of the judges (except for your own program)...Our librarians are also looking into the status of the XB loader for TI-Writer to see if it is in the public domain, if so it will be placed in our library...The group lost about 180 members with the renewal period just past, but we are still adding about 10 members per week and are already back to about 400 paid members in the group. If you know of someone who did not renew, urge him or her to do so!

Addresses:

Home Computer Magazine	Compute!
P.O. Box 70288	P.O. Box 5406
Eugene OR 97401	Greensboro
1-800-828-2212	1-800-334-0868
Computer Shopper	The Smart Programmer
P.O. Box F	Miller's Graphics
Titusville Fl 32796	San Dimas, Ca 91773
(305)269-3211	
MICROpendium	Mini-Mag 99
P.O. Box 1343	S.O.S. Publishers
Round Rock, Texas	Woodland Hills, Ca 91364
(512)255-1512	(818-704-0145)

BASICALLY YOURS: Rich Klein

Well here we are again. I hope last month's column was informative to you. This month I'll answer a question received at last month's meeting. I'm sorry I didn't get the person's name who asked it, but I'm sure he knows who he is.

Q: Edited I can't seem to print to my printer with a PRINT USING statement. Is it possible to use this statement with a printer or is it only for use with the screen?.....Member CATIUG.

A: In response to your question, suffice it to say that, not only is it possible to utilize a PRINT USING statement when outputting to a printer, but in a number of numerical reporting applications it would be desirable. For those of you who are reading this and have no idea what a PRINT USING statement is, it is a very powerful enhancement of the PRINT statement, is included with other BASIC enhancements in the EXTENDED BASIC module, and is used in conjunction with the IMAGE statement (also in E/B) to allow extensive controlled formatting of displays, whether on the screen, or on paper.

First, let's discuss the PRINT USING and IMAGE statements in general, and then see how they can be used with a printer.

The IMAGE statement is discussed in detail on Pgs 97-100 and the PRINT USING statement is on Pg 150 in the EXTENDED BASIC manual.

PRINT USING requires that the programmer specify a format to be "USED" by this statement. This can be accomplished by including the format to be used in the statement:

```
1000 PRINT USING "####.##":A
```

If a variety of formats is to be used, or perhaps if one or more format is to be used repetitively, then you might use an IMAGE statement for the PRINT USING statement to refer to:

```
100 IMAGE "####.##"  
110 IMAGE "##.###.##"  
120 PRINT USING 100:A  
130 PRINT USING 110:B
```

When using an IMAGE statement as a reference for a PRINT USING statement you must refer to the line number that the IMAGE statement is on. (see example above)

If you're wondering what the crosshatches (referred to as pound signs) are for, they are used to specify the format desired. When a number is to be formatted, it replaces the pound signs with the formatted version of that number. For example, in the micro-listing above, the value of A was to be displayed using the format in the IMAGE statement on Line 100. If A equalled 100 then it would be displayed as \$100.00. If A equalled 123.456 then it would be displayed as \$123.46. Note that if a number goes out to more decimal places on the right than allowed for, then the number would be rounded to fit the format specified. If the number is physically too large to fit into the format, then it will not be displayed and asterisks will be displayed in its place. In laymans terms, this means you made a boo-boo.

The IMAGE statement can be used to display numbers in scientific notation. This allows you to format these numbers as you like instead of letting the console do it as it likes. Here's how to cause a number to be expressed in scientific notation:

```
100 IMAGE "##.##^~~~"
```

The pound signs are used to display the altered number as formatted and the circumflexes are used to express the E and the power of the number. One limitation is that the length of the format must not exceed 10 characters and must contain at least four circumflexes. I neglected to mention that other types of IMAGE statements can be as long as 254 characters. These format types can be used to express text as well as numbers although it is considered more useful for formatting numbers. When expressing numbers, text can also be included in the IMAGE. For example:

```
100 IMAGE "The answer is ####.##"
```


When used in a PRINT USING statement and A equals 123.456 you would see displayed as a result:

The answer is 123.46

When using a printer, after opening a file to the printer and including an IMAGE statement, if desired, you would change the print statement to look as follows:

```
1000 PRINT #1,USING 100:A
```

The syntax of this statement is not made perfectly clear in the manual, so make sure that if you're printing to a file (printer,disk, etc.), you include the coma after the file number.

If you elected not to use an IMAGE statement, simply replace the line number reference with the desired format as it would have appeared in the IMAGE statement. If you have a problem, make sure the syntax of the statement is correct.

In addition to the PRINT USING statement, you can also format DISPLAY statements by the use of the DISPLAY USING statement. The DISPLAY statement is used exclusively for the screen though, and to output to a printer or similar file you must use the PRINT sereis of statements. However, it works well with DISPLAY AT():USING statements for total control of screen formatting. The syntax of the DISPLAY USING statement is somewhat different, so check the manual when switching between the two.

That about covers the question raised and the PRINT USING and IMAGE statements. For further info consult the EXTENDED BASIC manual. Also, don't be afraid to experiment.

If anyone is interested in an equivalent routine in TI BASIC, let me know and I'll come up with something. For any questions and correspondence, just drop a line to this column at the address on the back of this newsletter.

966-2342: Irwin Goldstein

Moving right along, as they say, is exactly what the TI 99/4A Users Group Bulletin Board is doing. We are still moving in a positive direction, making additions and improvements as we go.

We have added a third disk drive which provides capabilities for adding additional subboards, providing more room for download programs and more. We also went double density to maximize the availabel disk room currently in use.

Our download section currently has twenty programs for transmission. These programs are periodically changed in an effort to provide an interesting mix of software.

To maintain this continuous exchange of download programs, we are asking for contributions from the users of the BBS; no, not money; we need original programs for public distribution. The programs can be uploaded by leaving a mesage to the systop with your phone number. I

will call you and we can proceed. Or you can bring a disk to the meeting for exchange. You may also mail a disk or tape to the Group at the address on the backside of this newsletter.

As of the board's progression, it is definitely still moving right along. If you are a regular caller you have noticed the institution of a graphic subboard which will be expanded on as time goes by. Also we are going to be making changes soon to the assembly portion of the program.

At the next meeting, March 9th, a demonstration will be given to explain exactly how to best use the Board. Any and all questions will be answered in an effort to make your visit on our system as pleasant as possible.

VIDEO MODES: Jim Ness

THE TI99/4A
VIDEO DISPLAY PROCESSOR

Chapter 3

We have already discussed the various modes available with the 9918A video processor. They include Graphics mode, Text mode, Multicolor Mode, and Bit Map mode.

In this concluding chapter, we'll see how the TI99/4A CPU communicates with the VDP.

There are 4-8 bit registers set aside in the Scratchpad Ram, for access to the VDP. Numbers placed into these registers in the proper manner are transferred to and from the CPU and VDP. These registers are the VDP Write Address Register, the VDP Read Data Register, the VDP Write Data Register, and the VDP Read Status Register.

The Write Address Register is used to specify to the VDP which address you are going to write to or read from. Once a number is placed properly in this register, the data currently in that address pops up in the Read Data Register for your use. Since it is an 8 bit register, and we are dealing with 16 bit addresses, only half the address is written at a time, the last byte, pause, and then the first byte. The address in question in the VDP Ram will hold a byte of info, so the data will appear in the Read Register as a whole.

The Write Data Register specifies the data that you want to have written into VDP Ram. Again, you are writing a byte of info, so the whole thing fits into the 8 bit Register. Only the address is 16 bit, so only the Write Address Register is written to twice.

The reason there has to be a pause in sending the address to the VDP is that the two processors march to a different drummer. The CPU runs at about 3MHZ and the VDP at about 1MHZ. The result is that you have to slow your assembly program down for a moment to be sure that the VDP catches the two byte address you are sending.

The Read Status Register contains some status info about the VDP, including coincidence of sprites and too many sprites on a single line.

By using these registers, you can put any info on the screen, byte by byte, set up the VDP for sprites, or bit map graphics, etc. But TI has written some subroutines into the E/A, Xb, and MMM carts that can be referred to in assy lang programs. These subroutines make access to the VDP even easier, and al most all programmers use them. The only problem is that the subroutines are not accessed the same for each cart, so if you use them, you have to write them for either the E/A and MMM, or for the XB cart.

These subroutines include VMBW, which is VDP Multiple Byte Write, VMBR (Read), VSBW (Single Byte Write), VSBR (Read), and VWTR (Write to Register).

In each case, you put the required info into workspace registers, and then branch to the appropriate subroutine. Presto-chango, your data is transferred.

For instance, if you have no shortage of memory space, you could set aside 736 bytes for screen scrolling. You would transfer screen lines 2 thru 24 to this space in CPU Ram, and immediatly trans fer it back to VDP Ram, but place it into lines 1 thru 23, and then blank out line 24. Like this:

```
*  SCROLL SUBROUTINE  *
      DEF SCROLL
      REF VMBR,VMBR
TEMP  BSS  736
BLANKS TEXT '          (32 SPACES)  '
SCROLL LI  R0,32
      LI  R1,TEMP
      LI  R2,736
      BLWP @VMBR
      CLR R0
      BLWP @VMBW
      LI  R0,736
      LI  R1,BLANKS
      LI  R2,32
      BLWP @VMBW
      RT
      END
```

If this routine were assembled and loaded into a Basic pgm, you could have a CALL LINK("SCROLL") statement that would scroll the screen. Of course, you wouldn't go to all that work, because a PRINT statement does the same thing, just a little slower.

I haven't gone into a lot of detail on the various assy lang statements. I have to assume that if you are interested, you will ask questions.

That's the end of that topic. If you have questions or scathing remarks, just leave me a message on TI-West or TI- South.

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Tidings % Mr. Stephen Shaw
Road

Englar

REMARKS: Carole Goldstein

Well, another month brings more rumors about a clone machine or a machine that will be upwardly expandable with our 99/4A's. We've heard all these rumors so many times before. Our hunger for a new machine is very real and to have one that would incorporate all our already owned software and hardware would be like a dream come true. The group has received a letter from a company in Canada that was checking into the marketability of a new compatible machine. The company, Wryte Data, was making inquiries for another as of yet unnamed company. They have asked us to initiate a letter writing campaign if we wished to express interest in this new computer. The address to write to is RYTE DATA, Box 210 Mountain St., Haliburton, Ontario K0M 1S0, CANADA. Please write if you would like to see this machine with 128K of usable RAM built in become a reality instead of a dream.

Congratulations to group member Bob Lee who's Bulletin Board System has just gone to 1200 baud. That doesn't mean that those with 300 baud modems can't access it. Quite the contrary, it just allows those with 1200 baud modems to have a lot faster access. If you are calling with a 300 baud modem you can still communicate with TI-South at 312-757-3135.

Again, thanks to those who contributed their time and knowledge to this issue of the newsletter. It is smaller than usual because those contributions have been dwindling. C'mon people, this is your newsletter. I can't write the whole thing myself. In the past we have had some very good articles contributed by our group members. Please continue in this tradition to keep this newsletter going strong!